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32692                      7590                      10/07/2008 3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427				
EXAMINER				
RIVELL, JOHN A				
ART UNIT		PAPER NUMBER		
3753				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

09/986,346

**Applicant(s)**

BOWERS, JOHN LAWRENCE

**Examiner**

JOHN RIVELL

**Art Unit**

3753

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 5/29/08 (RCE).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16, 17, 19-25, 41, 43-47, 49-54, 64, 66-70, 72-79, 83-86, 100-104, 108-120 and 122-129 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

Continuation of Disposition of Claims: Claims pending in the application are 16,17,19-25,41,43-47,49-54,64,66-70,72-79,83-86,100-104,108-120 and 122-129.

### **DETAILED ACTION**

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 29, 2008 has been entered.

By amendments filed in this application, claims 1-15, 18, 26-40, 42, 48, 55-63, 65, 71, 80-82, 97-99, 105-107 and 121 have been canceled. Claims 16, 17, 19-25, 41, 43-47, 49-54, 64, 66-70, 72-79, 83-96, 100-104, 108-120 and 122-129 are pending.

Applicant is reminded that amendments filed in reissue application are governed by 37 CFR §1.173. Specifically, §1.173(d)(2) notes that subject matter added, relative to the content of the Patent sought to be Reissued, should be indicated by underlining. Currently claim 85, submitted in the response of May 28, 2008 and relative to the content of the Patent sought to be Reissued is an addition, does not include such underlining. Applicant is cautioned that failure to follow established procedures in the submission of amendments in this Reissue application may result in the amendment being deemed non-responsive for such failure, thus prolonging prosecution.

### ***Oath/Declaration***

The reissue oath/declaration filed with this application is defective because the error which is relied upon to support the reissue application is not an error upon which a reissue can be based. See 37 CFR 1.175(a)(1) and MPEP § 1414.

The recent supplemental declarations filed May 23, 2005, June 21, 2005 and November 4, 2005 all state that:

"At least one error upon which reissue is based is (that) in claims 1 and 10 by reciting that both 'said root end of the cantilevered flexible flap and the respective sealing surface that contacts the cantilevered flexible flap at said root end have a fixed curvature in a direction transverse to said longitudinal axis"

as a basis for the alleged error in this reissue application. This cannot be considered as a proper basis for a reissue application as the very limitations that are to be removed from the claims of this application are what were added by applicant during prosecution of the original patent in order to overcome an applied rejection.

For example, during prosecution of the original patent application (SN 08/686839) which matured into the Patent under Reissue here, prosecution of the application proceeded to Final rejection on April 29, 1997. In response thereto, applicant submitted by facsimile dated May 20, 1997, a proposed Draft of then claim 12, which did not include the above noted language. Two days later, on May 22, 1997 a second facsimile of Draft claim 12 was submitted that did include the above noted language. This second Draft apparently was agreed upon by reason that a formal amendment dated June 12, 1997 in an effort to overcome prior art applied in the final rejection dated April 29, 1997, and further modifying the first Draft version of claim 12, applicant specifically amended then claim 12 by the specific addition of (added material indicated by underlining) the following:

"said root end of the cantilevered flexible flap and the respective sealing surface that contacts the cantilevered flexible flap at its said root end are curved in a direction transverse of said longitudinal axis, said transverse curvature biases the flap and maintains it substantially in contact..."

which includes the language applicant now requests to remove. On page 6 of the accompanying remarks concerning the rejection of claim 12 and how as amended the claim does not read on the applied reference applicant states:

“...independent claims 12 and 13 have been drafted to more fully define the form of, and relationship between, the valve flap and the cooperating valve seat.”

After further changes to claim 12, directed to language not germane to the concept of having the sealing surface curved in the transverse direction, claim 12 matured into claim 1 of the Patent sought to be Reissued. Thus the limitations added to the claims and/or argued about to make the claim patentable over the applied prior art effectively “generates” the surrender of the claimed subject matter.

To now allege in the reissue declaration that this claimed subject matter is an “error” under reissue is an improper attempt at recapture of previously surrendered subject matter. Accordingly, the oath is defective because the error which is relied upon to support the reissue application is not an error upon which a reissue can be based.

### ***Response to Argument***

In response to the above applicant argues that the Examiners imposition of a *per se* rule related to the removal of claim limitations that were inserted during prosecution has been rejected by the Board of Patent Appeals and Interferences citing *Ex parte Eggert*, 67 USPQ2d 1713, 1717 (BPAI 2003).

It is understood that *Eggert* allows in Reissue applications for the broadening of claim language germane to the limitations that were added/argued during prosecution of

the Patent application to overcome an art rejection. *Eggert* does not permit the complete removal of such language. In the claims listed below subject to rejection under Recapture, the claims eliminate language germane to the allowed concept concerning the transverse curvature of the sealing surface and instead propose language relating to a transverse curvature of the valve element only. As disclosed in the original Patent, an embodiment of the valve element itself may be initially constructed to include the transverse curvature such that the transverse curvature is not created by the mounting the of valve element to the curved valve seat. This constitutes a patentable distinct species of the invention. Another embodiment, which matured into the Patent sought to be Reissued concerned the transverse curvature to be imparted to or created by the mounting the of valve element to the curved valve seat. To the extent applicant chooses to argue that the below claims which do not includes language germane to the curved seat, as set forth in the patented claims, are readable on the prosecuted embodiment, failure to submit claims to an essentially non-elected embodiment of the invention in later filed applications is not an "error" causing a patent granted on examined claims to be partially inoperative by reason of claiming less than the applicant had a right to claim. See M.P.E.P. §1412.01. While applicant is correct in that a Restriction requirement was not made in the prosecution of the original patent, the embodiment that matured into the Patent was constructively elected by original presentation. To the extent applicant may argue that the claims of this application which do not include language germane to the curved seat imparting transverse curvature to the valve element are readable on the prosecuted embodiment they are not so readable

as such an embodiment, covered by the disclosed valve element including preexisting transverse curvature not imparted by the curved seat, was not constructively elected during the prosecution of the original patent.

Claims 16, 17, 19-25, 41, 43-47, 49-54, 64, 66-70, 72-79, 83-96, 100-104, 108-120 and 122-129 are rejected as being based upon a defective reissue declaration under 35 U.S.C. 251 as set forth above. See 37 CFR 1.175.

The nature of the defect(s) in the declaration is set forth in the discussion above in this Office action.

### ***Recapture***

Claims 41, 43, 46, 64, 66 and 69 are rejected under 35 U.S.C. 251 as being an improper recapture of broadened claimed subject matter surrendered in the application for the patent upon which the present reissue is based. See *Pannu v. Storz Instruments Inc.*, 258 F.3d 1366, 59 USPQ2d 1597 (Fed. Cir. 2001); *Hester Industries, Inc. v. Stein, Inc.*, 142 F.3d 1472, 46 USPQ2d 1641 (Fed. Cir. 1998); *In re Clement*, 131 F.3d 1464, 45 USPQ2d 1161 (Fed. Cir. 1997); *Ball Corp. v. United States*, 729 F.2d 1429, 1436, 221 USPQ 289, 295 (Fed. Cir. 1984). A broadening aspect is present in the reissue which was not present in the application for patent. The record of the application for the patent shows that the broadening aspect (in the reissue) relates to claim subject matter that applicant previously surrendered during the prosecution of the application. Accordingly, the narrow scope of the claims in the patent was not an error within the meaning of 35 U.S.C. 251, and the broader scope of claim subject matter surrendered



in the application for the patent cannot be recaptured by the filing of the present reissue application.

Under the exact analysis above concerning the statement of “error” made in the declaration, it is clear that the addition of language referring to the “transverse curvature” of both the “flexible valve element” and the “respective sealing surface that contacts the cantilevered flexible flap at its root end” was relied on during prosecution of the original application for allowability. Accordingly, claims in this reissue application that now omit limitations added and/or argued to overcome the prior art rejection in the original prosecution are barred by the recapture rule. A thorough review of the above noted claims reveals that these claims now do not include language germane to the transverse curvature of the respective sealing surface that contacts the flap root end. It is well understood that, under current procedures, applicant may broaden the claim language germane to the allowed and/or argued feature of the patented claims. However, applicant is barred by the recapture rule from removing all language germane to the allowed and/or argued features.

### ***Response to Argument***

In response to the above concerning Recapture, applicant notes well known Court precedent relating to Reissue and argues that:

“A comparison of each of the rejected claims to the original claims surrendered prosecution of the ‘767 patent shown that each of the rejected claims recites additional limitations germane to the prior art rejections asserted against claims 1 and 10 of the ‘767 patent, thereby avoiding the prohibition against recapture”

and points out the further limitations of the further rejected claims as avoiding recapture in that the above limitations and further noted limitations are germane to a prior art rejection on the original application.

The recitation in claim 41 for example, of "maximum transverse curvature at the location where the flap is mounted to the valve seat" may be implied by the fact that the seat surfaces are also curved in the transverse direction. If this were the only interpretation this may be acceptable. This claim recitation is also covered by the other embodiment disclosed in the Patent in which the valve flap is originally constructed to have this transverse curvature. In this other embodiment, the transverse curvature would also "be at a location where the flap is mounted to the valve seat". This interpretation does not require any consideration of the valve seat. Consequently, the scope of the claim language covers an embodiment outside of and not germane to the language relied on for allowability relating to the transverse curvature being imparted to the valve flap by its mounting upon transversely curved seating surfaces.

Additionally applicant argues that limitations relating to the transverse curvature of the sealing surfaces were "not germane to a prior art rejection" by reason that no arguments were presented concerning the transverse curvature of the sealing surfaces during prosecution.

On review of the prosecution history of the application, as noted above, this argument is unpersuasive.

The application prosecution history clearly reflects that, in response to a Final rejection of claims, applicant submitted by facsimile dated May 20, 1997, a proposed

Draft of then claim 12, which did not include language directed to the transverse curvature of the sealing surfaces. Two days later, on May 22, 1997 a second facsimile of Draft claim 12 was submitted that did include language directed to the transverse curvature of the sealing surfaces. This second Draft apparently was agreed upon in that, in a formal amendment dated June 12, 1997 in an effort to overcome prior art applied in the final rejection dated April 29, 1997, and further modifying the first Draft version of claim 12 submitted May 20, 1997, applicant specifically amended then claim 12 by the specific addition of language directed to the transverse curvature of the sealing surfaces. After further modification of claim 12, in a manner not related to the language considered germane to the features relating to the transverse curvature of the flap and seating surface, claim 12 matured into claim 1 of the Patent sought to be Reissued. Clearly the prosecution history of the application of the Patent sought to be Reissued indicates that language relating to the transverse curvature of the sealing surfaces was specifically relied on to overcome a rejection on prior art. Otherwise the version of the claim submitted May 20, 1997, which did not contain language related to the transverse curvature of the seating surface would have been indicated as allowable over the prior art by the Office. The fact that it was not so indicated by the Office indicates that language not present related to the transverse curvature of the seating surface was insufficient to overcome the prior art rejection applied at the time.

Applicants further arguments that the Examiner is relying on unsubstantiated portion of the record is unpersuasive. The record clearly shows a change in, for example claim 12, from the version submitted by applicant that was finally rejected to

the version submitted June 12, 1997 that, with the addition of minor changes not related to added features, matured into the Patent sought to be Reissued. The Examiners detailed description above of the events the record reiterates applicants acts in making substantive changes to the claim(s) during prosecution of the patent to overcome prior art rejections at the time.

***New Matter***

Claims 47, 49-54, 64, 66-70, 72-79, 83-96, 100-104, 108-120 and 122-129 are rejected under 35 U.S.C. 251 as being based upon new matter added to the patent for which reissue is sought. The added material which is not supported by the prior patent is as follows:

In claim 47, lines 14-16 recite "the stationary portion of the flexible flap being held in a stationary position in contact with a portion of the seal ridge such that the stationary segment of the peripheral edge remains stationary during exhalation". Lines 21-23 then recite "the mounting of the flap causing the stationary portion of the flap to be pressed towards the seal ridge such that at least a portion of the stationary portion resides in non-alignment with the seal surface when viewing the valve in a longitudinal section". Since "the stationary portion (is)... held... in contact with... the seal ridge" it is not understood how the mounting of the flap in a manner which presses the flap "towards the seal ridge (causes) a portion of the stationary portion (to) reside in non-alignment with the seal surface" as recited in the claim. As there is no basis for this limitation in the original patent this is considered to be new matter.

In claim 64, lines 4-5 recited "the flexible flap being non-centrally mounted to the valve seat relative to the orifice". Since the "orifice" of the valve seat has both length and width, any position that is not on the center of the orifice is covered by the recitation "non-centrally". The flexible flap, as disclosed in the Patent, is mounted along an edge of the flexible flap. While the recitation "non-centrally" encompasses the embodiment in which the flap is mounted along the edge in cantilever fashion, it also encompasses embodiments in which the valve is mounted not at the center of the valve and not at the edge of the flap as disclosed. Such embodiments now covered by the scope of the recitation "non-centrally" are not disclosed in the Patent and are considered to be new matter.

In claim 70, lines 12-13 recite "the flexible flap is mounted off center such that the stationary portion of the flexible flap is off center relative to the longitudinal axis of the flap". The flexible flap, as disclosed in the Patent, is mounted along an edge of the flexible flap. While the recitation "off center" may encompass the embodiment in which the flap is mounted along the edge in cantilever fashion, it also encompasses embodiments in which the valve is mounted not at the center of the valve and not at the edge of the flap as disclosed. Such embodiments now covered by the scope of the recitation "off center" are not disclosed in the Patent and are considered to be new matter.

Further in claim 70, lines 15-18 recite "the transverse curvature being accomplished at least in part by having a member from the valve cover press against the flap to create sufficient curvature in the flap at a point when the member contacts

the flap to cause at least a part of the stationary portion to reside in non alignment with the seal surface". As disclosed in the Patent, the only "member" which extends "from the cover (to) press against the flap to create sufficient curvature" is profiled block 15. See the Patent at column 3, lines 25-29. At the location of profiled block 15 the flexible flap cannot be located in "non alignment with the seal surface" 9A. The only part of the flexible flap that resides in non alignment with the seal surface as a result of a member contacting the flap is at the location of profiled block 16. Block 15 and block 16 are at two distinct locations. It would appear that the claim is attempting to require the same element to perform different things within the structure of the valve device for which there is no support in the original Patent and is thus considered to be new matter.

In claim 86, lines 15-16 recite "...to cause the flexible flap to exhibit a curvature at least in a direction transverse to the longitudinal axis ...". The phrase "at least" enlarges the scope of the claim to include curvature in directions not transverse to the longitudinal axis such as along askew angles from the longitudinal axis which is outside the scope of the original patent. As there is no basis for this limitation in the original patent this is considered to be new matter.

In claim 89, lines 20--21 recite "the fixed curvature being accomplished at least in part by exerting a force on the flexible flap to move the flap towards the valve seat such that the flap, at the location where the force is exerted, is non-aligned with the seat surface". The only element which exerts a force to move the flap towards the seat such that at the location of the exerted force the flap is "non-aligned" with the seal surface is block 16. Block 16 does not accomplish the curvature, it accentuates the curvature

already imparted by block 15 and seal ridge 9A. Secondly the recitation "at least in part" encompasses embodiments of the invention in which the fixed curvature is "accomplished" by structure not disclosed in the Patent. Such embodiments, as they are not disclosed in the Patent are considered new matter.

In claim 92, lines 20-23 recite "the fixed curvature being accomplished at least in part by exerting a force on the flexible flap to move the flap towards the valve seat such that the flap, at the location where the force is exerted, is non-aligned with the seal surface". The only element which exerts a force to move the flap towards the seat such that at the location of the exerted force the flap is "non-aligned" with the seal surface is block 16. Block 16 does not accomplish the curvature, it accentuates the curvature already imparted by block 15 and seal ridge 9A. Secondly the recitation "at least in part" encompasses embodiments of the invention in which the fixed curvature is "accomplished" by structure not disclosed in the Patent. Such embodiments, as they are not disclosed in the Patent are considered new matter.

In claim 95, lines 18-20 recite "the fixed curvature resulting at least in part from a force being applied to the flap at a position proximate the root end and between the peripheral side edges, the applied force moving the flap upstream at the applied position and thus at least partially imparting the curvature". The only element which exerts a force to move the flap "upstream" is block 16. While the block 16 "at least in part" supports curvature of the flap 7, the recitation "at least in part" encompasses embodiments of the invention in which the "force" is applied by structure not disclosed in

the Patent. Such embodiments, as they are not disclosed in the Patent are considered new matter.

In claim 104, lines 18-21 recite "the fixed curvature resulting at least in part from a force being applied to the flap at a position proximate the root end and between the peripheral side edges, the applied force moving the flap upstream at the applied position and thus at least partially imparting the curvature". The only element which exerts a force to move the flap "upstream" is block 16. While the block 16 "at least in part" supports curvature of the flap 7, the recitation "at least in part" encompasses embodiments of the invention in which the "force" is applied by structure not disclosed in the Patent. Such embodiments, as they are not disclosed in the Patent are considered new matter.

In claim 111, lines 19-21 recite "the fixed curvature at least partially resulting from a force being applied to the flap at a position proximate the root end and between the peripheral side edges, the applied force moving the flap upstream at the applied position and thus at least partially imparting the curvature". The only element which exerts a force to move the flap "upstream" is block 16. While the block 16 "at least in part" supports curvature of the flap 7, the recitation "at least partially" encompasses embodiments of the invention in which the "force" is applied by structure not disclosed in the Patent. Such embodiments, as they are not disclosed in the Patent are considered new matter.

In claim 120, lines 27-28 recite "the applied force moving the flap upstream at the exerted position and thus at least partially imparting the curvature While the block 16 "at



least in part” supports curvature of the flap 7, the recitation “at least partially” encompasses embodiments of the invention in which the “force” is applied by structure not disclosed in the Patent. Such embodiments, as they are not disclosed in the Patent are considered new matter.

In claim 122, lines 18-19 recite “the flexible flap is mounted on the valve seat non-centrally relative to the valve seat orifice”. Since the mounting elements at block 15 and seal ridge 9A span the width of the flap, which flap passes center lines of the seat orifice, it is not seen as to how the flap is mounted “off center” as recited. Further, lines 19-20 recite “there being a force exerted on the flap in an upstream direction relative to the fluid flow through the valve to at least partially impart a curvature to the flap when in a closed position”. While the block 16 “at least partially” supports curvature of the flap 7, the recitation “at least partially” encompasses embodiments of the invention in which the “force” is applied by structure not disclosed in the Patent. Such embodiments, as they are not disclosed in the Patent are considered new matter. Additionally, lines 21-22 recite “which curvature extends at least transversely to the longitudinal dimension”. The inclusion of the phrase “at least” enlarges the scope of the claim to include curvature in directions not transverse to the longitudinal axis such as along askew angles from the longitudinal axis which is outside the scope of the original patent. As there in no basis for these limitations in the original patent this is considered to be new matter.

In claim 125, the limitations recited concerning the “second structural member” in claim 125 do not follow from the dependent claim 124, from which claim 125 depends,

in which there is firstly recited the "second structural member. For example, in claim 124, the first and second structural members that trap the flap between first and second confronting surfaces are members 9a and 15. As recited in claim 125, the "second structural member" is to contact the flap "adjacent to the stationary portion to accentuate the transverse curvature". As disclosed in the Patent, the block 16 "accentuates" the curvature. Thus the "second structural member" of claims 124 and 125 are two different elements for which there is no disclosure in the Patent and is thus considered new matter.

The remaining claims are included due to dependency.

### ***Response to Arguments***

#### **Claims 47 and 49-54**

In response to the above, applicant argues that:

"An exemplary portion of the stationary portion of the flap 7 that is 'in non-alignment with the seal surface' as recited in claim 47 is found between profiled block 15 and second profiled block 16 in the view of figure 4"

It is agreed that the "portion" of the valve flap that is "in non-alignment with the seal surface" is represented by the "portion" of the valve flap acted upon by the profiled block 16. This is the cause of the rejection. As noted above, the claims require "the stationary portion" to be "held in a stationary positioning contact with a portion of the seal ridge". The claims further require "a portion of the stationary portion (residing) in non-alignment". Viewing figure 4 of the Patent, this "stationary portion" defined in the claim is that portion of the valve flap 7 clamped between seal ridges 15 and 9a. The "portion" acted upon by profiled block 16 is to the left, in fig. 4, of this "stationary portion"

and is thus not a "portion" of the "stationary portion" as required by the claim. It is clear that the flexible flap 7 is mounted between two valve body halves. As disclosed in the Patent, the valve flap 7 is trapped between the seat portion 9A and the profiled block 15 (Patent, column 3, lines 15-20). As claimed in claim 47, lines 14-16, "the stationary portion of the flexible flap being held in a stationary position in contact with a portion of the seal ridge such that the stationary segment of the peripheral edge remains stationary during exhalation". The only "portion" of the flexible flap that is "held in a stationary position in contact with the seal ridge (seal ridge 9A)" is that portion of the flexible flap 7 trapped between the seal ridge 9A and the profiled block 15.

The other part of the claim recites that "at least a portion of the stationary portion resided in non alignment with the seal surface" which is not commensurate with the previously recited state of "the stationary portion". As claimed applicant purports to locate "the stationary portion" in one location, in contact with the seal ridge and a part of "the stationary portion" in another location, in non alignment with the seal surface. If "the" portion is in one location, part of that portion cannot be in another location.

**Claims 70, 72-79, 83-85.**

Firstly, applicant argues that the Examiners interpretation of "off center" is too narrow and does not support the rejection under new matter because as shown in fig. 4 of the Patent the mounting of the flap is off center relative to the flap because the mounting area is closer to one end of the flap than the other end of the flap. This is unpersuasive as the seal ridges 15 and 9A pass through a center line of the flap and is thus not Off center. Secondly, while the recitation "off center" may encompass the

embodiment in which the flap is mounted along the edge in cantilever fashion, it also encompasses embodiments in which the valve is mounted not at the center of the valve and not at the edge of the flap as disclosed. Such embodiments now covered by the scope of the recitation "off center" are not disclosed in the Patent and are considered to be new matter.

#### **Claims 86-88**

Applicant argues in connection with the recitation "at least", that the disclosure of the valve flap having optional longitudinal curvature, relying on the Patent at column 3, line 62 to column 4, line 7, provides support for the claimed "curvature at least in a direction transverse...".

This argument is unpersuasive. The recitation "at least" is considered open ended unless explicitly defined in the disclosure of the Patent. It is agreed that applicant is not required to use the exact same words as used in the description of the invention. However, applicant cannot enlarge the scope of the claim to include embodiments not covered by the scope of the disclosure in the Patent. The portion of the Patent relied on noted above, discusses the transverse curvature of the flap, maximum at the root end at seal ridge 9A, decreasing towards the free end at 9C because of the straight but inclined side portion 9B. The "degree of longitudinal curvature" is imparted to the flap not because of the seal ridge 9a but because of the incline of the side edges 9b. Further disclosure notes that the seal ridge 9c may also include transverse curvature such that the transverse curvature extends throughout the length of the flap. But this is not what is covered by the claim language at issue.

The claim language at issue recites "a valve cover that has a profiled block that engages the flexible flap at the stationary portion to press the flap towards the valve seat to cause the flexible flap to exhibit a curvature at least in a direction transverse to the longitudinal axis". As disclosed in the Patent, the only profiled block that engages the flexible flap at the stationary portion to press the flap towards the valve seat" is that "block 15". That "block 15" imparts curvature to the flap in the transverse direction only. The "block 15" does not impart longitudinal curvature to the flap.

Applicants remaining comments essentially repeat the above points of arguments as they concern the remaining claim language. Accordingly, the above comments apply to those arguments as well.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 41, 43, 44, 64, 66 and 67 are rejected under 35 U.S.C. §102 (b) as being anticipated by cover (U. S. Pat. No. 2,105,183).

Regarding claim 41, the patent to Cover ('183) discloses a "filter face mask comprising: a mask body (11) adapted to fit over a nose and a mouth of a wearer (in the device of Cover ('183), although not explicitly illustrated in the figures, the mask 11 is considered to be positionable over the nose and mouth of the wearer since Pat. No. 2,105,183 is disclosed as being an improvement over a previous application, Serial No.

722,619 which matured into U.S. Pat. No. 2,112,270 of record which fully discloses that the mask 11 would be located over the nose and mouth of the wearer); and an exhalation valve (figures 3, 5 and 6) mounted to the mask body; the exhalation valve comprising only one flexible flap (read at half of the flap 23 forming one valve) and a valve seat (surface of plate 17); the flexible flap (23) being non-centrally mounted to the valve seat (at 17) relative to the orifice (at 18) and in cantilever fashion (the valve element 23 is mounted by attaching the portion at holes 24 of the valve to the plate 17 at holes 20 by pins 21. As such this mounting arrangement forms a hinge area thus effectively forming two "cantilever" type valve elements either one of which is readable on the "flap" recited herein) for movement between open and closed positions; the flexible flap (23) having a longitudinal dimension (extending from the hinge area where the "flap" is fixed to either of the "free" extremities) and a free end that rests upon the valve seat (17) when in closed position; the flexible flap (either one of the valves formed) also having a transverse curvature in a direction transverse to the flap's longitudinal dimension (as exemplified by the concavity exhibited in figure 2, extending along the plane of the hinge area. See page 1, right column, lines 28-31); the transverse curvature biasing the flexible flap to effect positioning and retention of the flexible flap in the closed position in the absence of an opening pressure differential across the flap for any orientation of the valve (as disclosed at page 2, lines 8-52 of Cover ('183)) wherein the flexible flap has maximum transverse curvature at the location where the flexible flap is mounted to the valve seat" as recited.

Regarding claim 43, in Cover ('183), the transverse curvature of the flexible flap (either one of the "flaps") progressively decreases toward the free end of the flexible flap" from the maximum at the hinge area given that the surface 17 is concave. At locations approaching the rim of the concavity the curvature will decrease to eventually meet with the plate rim.

Regarding claim 44, in Cover ('183), "the transverse curvature is imparted to the flexible flap by virtue of its mounting to the valve seat" by reason that the flap is pressed to the concave seat surface.

Regarding claim 46, in Cover ('183), "the exhalation valve is so located on the mask such that during normal head movements of a wearer, the free end of the (lower) flexible flap (of the two) is generally directed downwardly" as recited.

Regarding claim 64, the patent to Cover ('183) discloses a "filter face mask that comprises: (a) a mask body (11) adapted to fit over a nose and a mouth of a wearer (in the device of Cover ('183), although not explicitly illustrated in the figures, the mask 11 is considered to be positionable over the nose and mouth of the wearer since Pat. No. 2,105,183 is disclosed as being an improvement over a previous application, Serial No. 722,619, which matured into U.S. Pat. No. 2,112,270 of record which fully discloses that the mask 11 would be located over the nose and mouth of the wearer); and (b) an exhalation valve (figures 3, 5, and 6) mounted to the mask body, the exhalation valve comprising only one flexible flap (either one of the valves formed at each half of the flap 23 of Cover ('183)) and a valve (surface of plate 17), the flexible flap (either one) being

non-centrally mounted to the valve seat (at 17) relative to the orifice (18) in cantilever fashion (the valve element 23 is mounted by attachment at holes 24 of the valve to the plate 17 at holes 20 by pins 21. As such this mounting arrangement forms a hinge area thus effectively forming two valve elements either one of which is read as the claimed "flap") such that it has a longitudinal dimension (extending from the hinge area to the "free" extremity), (either one of the) the flexible flap having a free end (opposite the hinge area) that rests upon the valve seat (e.g. the mating surface of plate 17) when closed, the flexible flap exhibits a curvature in a direction transverse to the flexible flap's longitudinal dimension (as exemplified by the concavity exhibited in figure 2, extending along the plane of the hinge area. See page 2, lines 8-52 of Cover ('183)), the transverse curvature biasing the flexible flap to assist in closing the valve in the absence of an opening pressure differential across the flexible flap, under any orientation of the valve (as disclosed at page 2, lines 8-52 of Cover ('183)), wherein the flexible flap has a maximum transverse curvature at the location where the flexible flap is mounted to the valve seat" as recited.

Regarding claim 66, in Cover ('183), the transverse curvature of the flexible flap decreases in the longitudinal dimension toward a free end of the flexible flap" from the maximum at the hinge area given that the surface 17 is concave. At locations approaching the rim of the concavity the curvature will decrease to eventually meet with the plate rim.



Regarding claim 67, in Cover ('183), "the transverse curvature is imparted to the flexible flap (either one of valves) by virtue of its mounting to the valve seat" as recited.

Regarding claim 69, in Cover ('183), "the exhalation valve is so located on the mask such that during normal head movements of a wearer, the free end of the (lower) flexible flap (of the two) is generally directed downward" as recited.

### ***Response to Argument***

Applicant argues that the claims at issue recite the flap "is 'non-centrally mounted to the valve seat relative to the valve orifice and in a cantilever fashion'" which is not readable in Cover ('183) because the single valve flap of Cover ('183) is mounted by "centrally located" pins.

As disclosed in Cover ('183) the single flap 23 is mounted to the valve seat by pins 21. However, this argument does not take into consideration the embodiments read by the Examiner. As explained above, the valve element 23 is mounted by attaching the mid portion at holes 24 of the valve to the plate 17 at holes 20 by pins 21. As such this mounting arrangement forms a hinge area at the mid point of the valve element 23 thus effectively forming two valve elements, on opposite sides of the hinge, either one of which is read as the claimed "non-centrally mounted, cantilevered flap".

Applicant further argues that Cover ('183) fails to include features exhibiting "maximum transverse curvature at the location where the flap is mounted to the valve seat". In Cover ('183), maximum transverse curvature is imparted to the flap at the location of the deepest portion of the concave surface of seat 17. The deepest portion

of the concave seat surface occurs at the central location of the concave surface. This occurs at the hinge area along the plane including the pins 20. From this lowers location the surface 17 rises, in a curved manner to the rim at the frame 15. Compare for example figures 1 and 2 which are views of the cross section of the valve along the plane of the hinge area at ins 20 (fig. 1) and perpendicular to the hinge area (fig.2). Each of the figures 1 and 2 shown the seating surface 17 to be concave. Moreover, at page 1, right column, line 30 explicitly states that "base plate 17... is concave as will be clear from Figs. 1, 2, and 4."

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 41-46, 64, 66-69 and 91 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 41 recites the limitation "the orifice" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 64 recites the limitation "the orifice" in 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 91 recites the limitation "the profiled block" in line 3. There is insufficient antecedent basis for this limitation in the claim.

The remaining claims are included due to dependency.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN RIVELL whose telephone number is (571)272-4918. The examiner can normally be reached on Mon.-Fri. from 6:00am-2:30pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Huson can be reached on (571) 272-4887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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j.r.